

Claims

1. A magnet arrangement for a magnetic levitation vehicle (1) comprising at least one magnetic pole (11) consisting of a core (14) and a winding (12), a control circuit (18) connected to the winding (12) and a power supply unit (23,24; 24, 41; 24, 47) for supplying at least the electrical energy required for the control circuit (18), characterized in that it is designed as an autonomous modular unit integrating within itself the magnetic pole (11), the control circuit (18) and the power supply unit (23, 24; 24, 41; 24, 47).
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2. A magnet arrangement according to Claim 1, characterized in that it comprises a magnet back box (15, 15a) destined for being fastened to a car body (17) of said magnetic levitation vehicle (1), and that the control circuit (18) as well as the power supply unit (23, 24) are accommodated in the magnet back box (15).
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- 15 3. A magnet arrangement according to claim 1 or 2, characterized in that it is comprised of a plurality of magnet poles (11), whose windings (12) are electrically connected in series and connected with the control circuit (18).
4. A magnet arrangement according to Claim 3, characterized in that the magnet poles (11) are combined to form at least two groups of magnet poles each group being connected to an associated control circuit (18), and that both control circuits (18) are integral parts of the modular unit.
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- 25 5. A magnet arrangement according to one of Claims 1 to 4, characterized in that the power supply unit comprises a winding (23) of a linear generator at least in one magnet pole (11a).
- 30 6. A magnet arrangement according to any of the preceding claims 1 to 4, characterized in that the power supply unit comprises at least one pick-up coil (47) for a contact-less inductive transmission of energy.

7. A magnet arrangement according to any of the preceding claims 1 to 4, characterized in that the power supply unit comprises of least one current collector (41).

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8. A magnet arrangement according to any of the preceding claims 2 to 7, characterized in that the magnet back box (15) is designed as a hollow body and that the control circuit (18) and/or at least the voltage converter (24) of the power supply unit are inserted as drawer-like units (30) into the magnet back box (15).

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9. A magnet arrangement according to any of the preceding claims 1 to 8, characterized in that it is configured as a support magnet (5) and/or a guidance magnet (9).

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10. A magnet arrangement according to any of the preceding claims 4 to 9, characterized in that the magnet poles (11) form a group each, individually or in pairs.

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11. A magnet arrangement according to any of the preceding claims 3 to 10, characterized in that each linear generator is connected to a voltage converter (24) of the power supply unit accommodated in the modular unit.

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12. A magnet arrangement according to any of the preceding claims 1 to 11, characterized in that the power supply unit comprises at least one buffer battery integrated in the modular unit.

13. A magnet arrangement according to any of the preceding claims 9 to 12, characterized in that it is designed as a module comprising the support magnet (5) and the guidance magnet (9).

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14. A magnet arrangement according to Claim 13, characterized in that the support magnet (5) or the guidance magnet (9) comprise a magnet back box (15) into which all the control circuits (18) and power supply units (23, 24; 24, 41; 24,

47) needed for the module are integrated.